

10/691,934

May 24<sup>th</sup>, 2006

Reply to Office Action of 04/19/06

Via Facsimile

**Amendments to the Specification**

Please replace the Abstract in its entirety with the following:

**ABSTRACT**

A leak detector for mixed heat exchangers. In mixed heat exchangers it is important to monitor leaks from the liquid flows to the gas flows since liquid can damage delicate machinery. A barrier is mounted on the gas side of the heat exchanger. The barrier contains at least two thermometers, one of which is thermally isolated from the gas flow inside of the barrier, and another which is in contact with the barrier. When cooler water droplets and vapor enter the gas flow they will come into contact with the barrier. This will lower the measured temperature dramatically in the thermometer which is in contact with the barrier, while the isolated thermometer will not have its measured temperature quickly lowered by the leak. Therefore a difference in the measurement in the change in temperature of the thermometers will indicate a leak in the heat exchanger.